

Flight Scientist Report  
Friday 03/12/2021 ACTIVATE RF54

Flight Type: Statistical Survey Flight  
Flight Route: KLF I KECG OXANA 34/-73.2517 32.3/-72.7821 34/-73.2517 OXANA KECG KLF I  
Special Notes: This is the second of 2 joint flights today with this one geared towards a coordination with a CALIPSO overpass.

### **King Air**

Pilot report (Glenn Jamison): 1223-1555(L), 3.5 hrs  
Sequenced takeoff to follow HU-25 due to forecast winds aloft  
Uninterrupted climb to final altitude of FL280  
Predominantly VMC and smooth air. Less than 30 sec cloud penetration at ~ FL220. Smooth air entire flight \*NOTE: expect we were below an upper level shear boundary, as all the airliners in vcty were complaining about significant turbulence at higher altitudes, and could only find good rides at FL290 and below.  
Steady winds aloft at 50-65 kts from NW  
Higher winds aloft than earlier put us slight ahead of desired midpoint position alignment with CALIPSO overflight; reduced airspeed to minimum practical and extended approximately 2 minutes beyond turn point to better sync with overflight.  
4x dropsondes deployed at prebriefed positions.

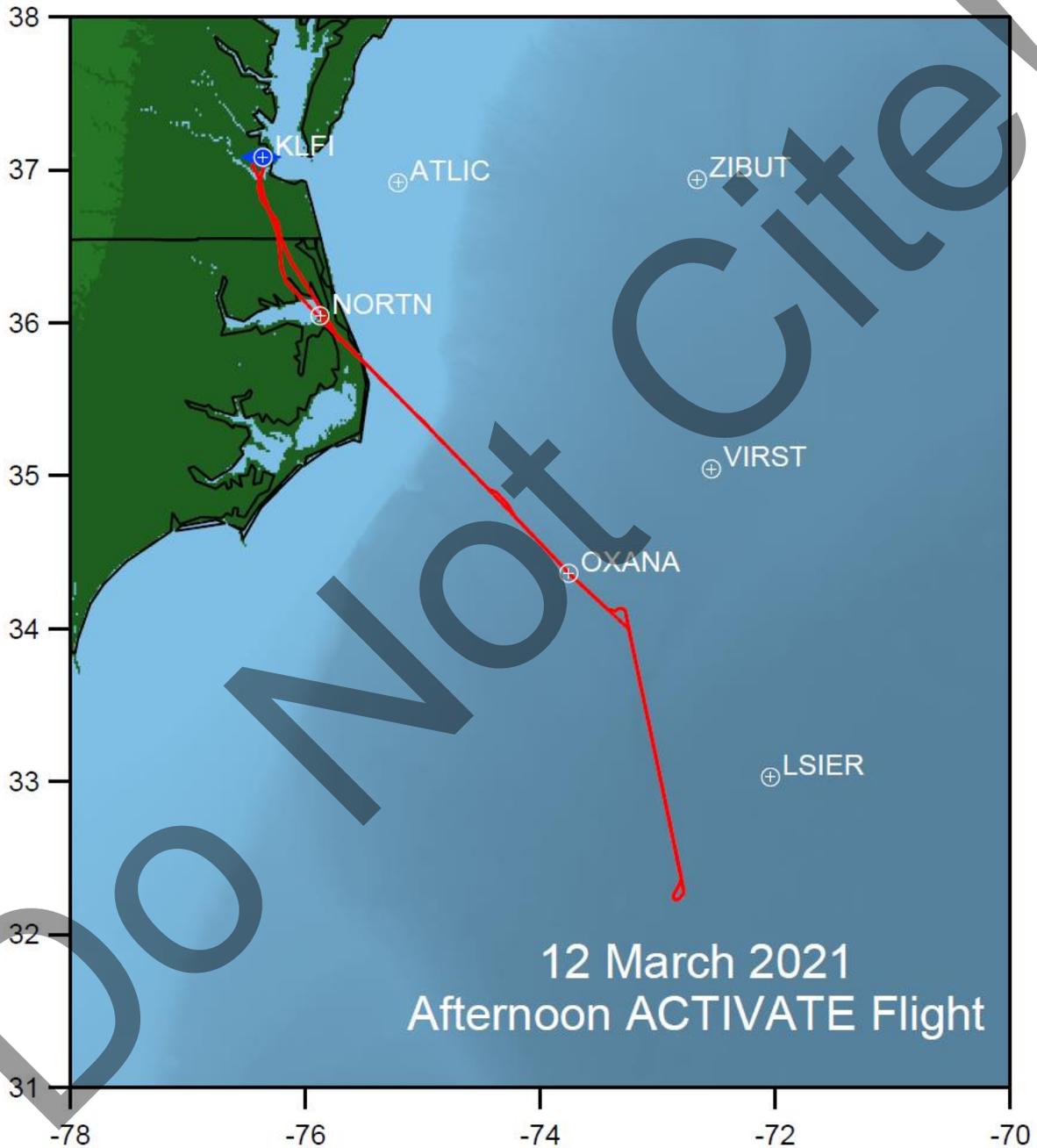
Flight scientist report (Shane Seaman): RF054 (sortie #2 on 3/12/2021) on the UC12 was a CALIPSO overpass and statistical survey joint flight with the HU25 Falcon.

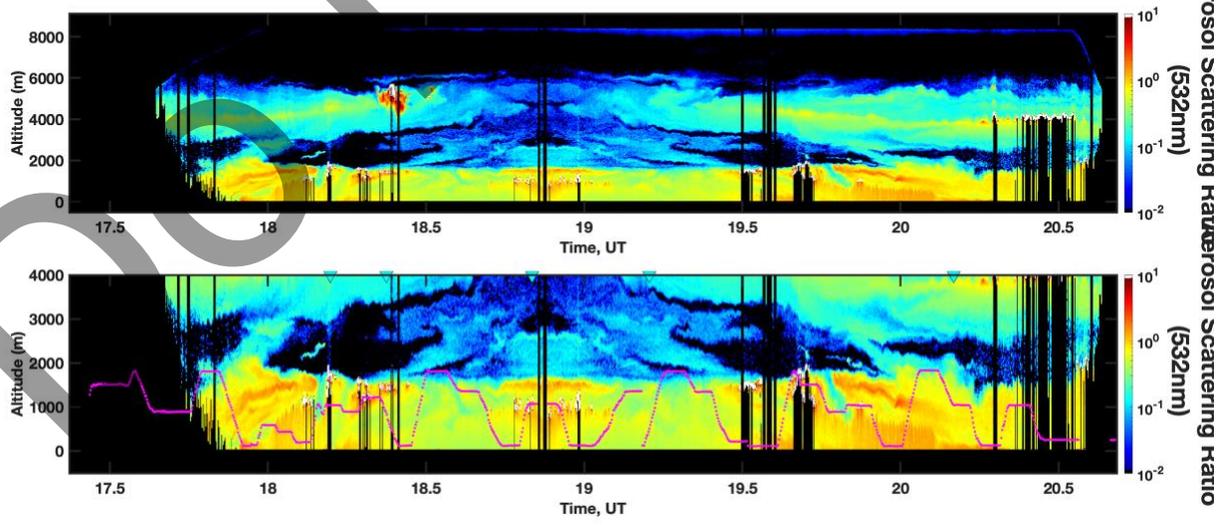
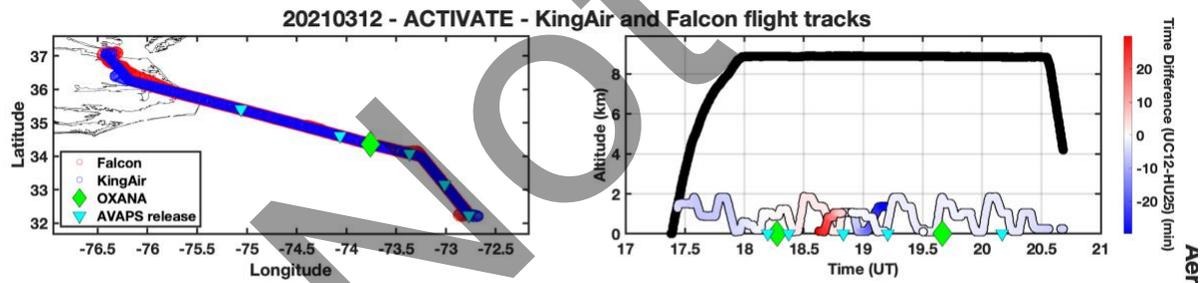
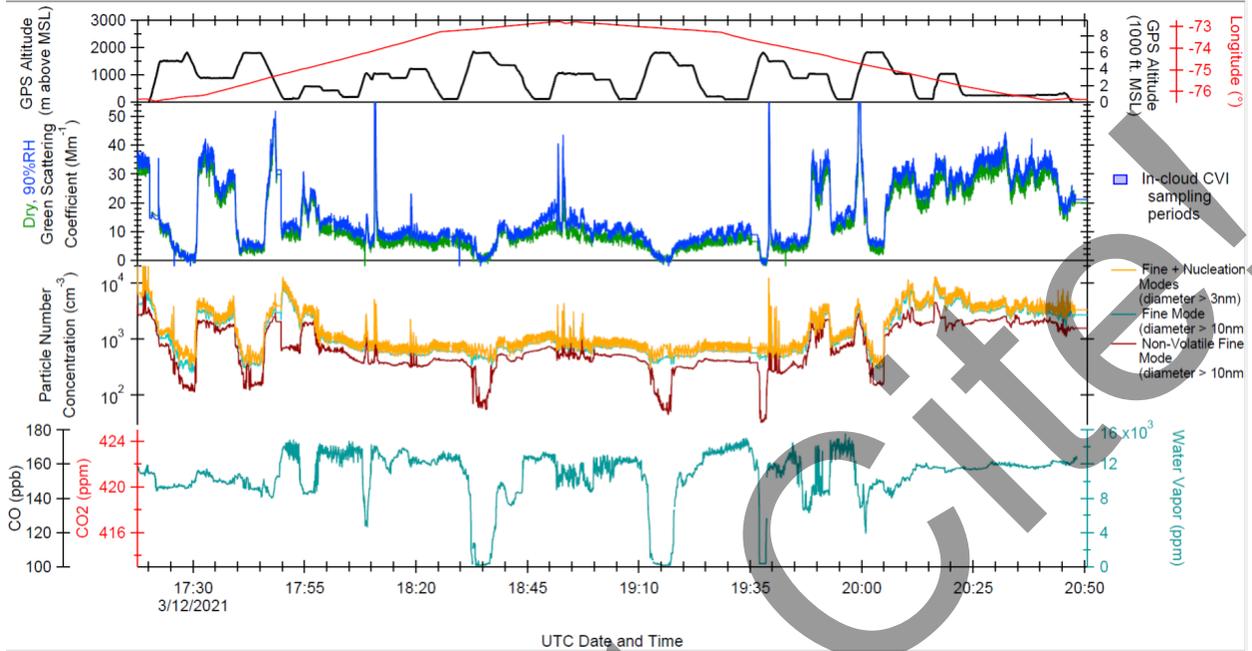
The UC-12 took off from KLF I approx. 12:23 EST, and executed the same plan as sortie #1 flying: KLF I KECG OXANA 34/-73.2517 32.3/-72.7821 34/-73.2517 OXANA KECG KLF I. Landing was approx. 3:53 PM EST. A total of 5 sondes were dropped. Shane Seaman was the operator for HSRL-2, RSP, drop sondes, and the cameras. All instruments operated nominally.

### **Falcon**

Pilot report (Greg Slover): Takeoff 1215, Landing 1548, Duration 3.5  
ACTIVATE Science flight from KLF I ECG OXANA 34/-73.2517 32.3/-72.7821 34/-73.2517 OXANA ECG KLF I in concert with a CALIPSO underpass at 1845Z. Altitudes flown were from 500' over water, 1000' min over land up to about 6500' MSL above the cloud layers. Clouds were thin, no more than 1000' thick and scattered throughout the route. Route flown as planned with a few deviations from centerline when needed to ensure 3-min legs for wind calibration. Flown in conjunction with NASA528 at high altitude.

Flight scientist report (Ewan): Same as RF53 report (please see it). Only thing new is: CALIPSO coordination was performed on the second flight and the timing was good for the overpass.



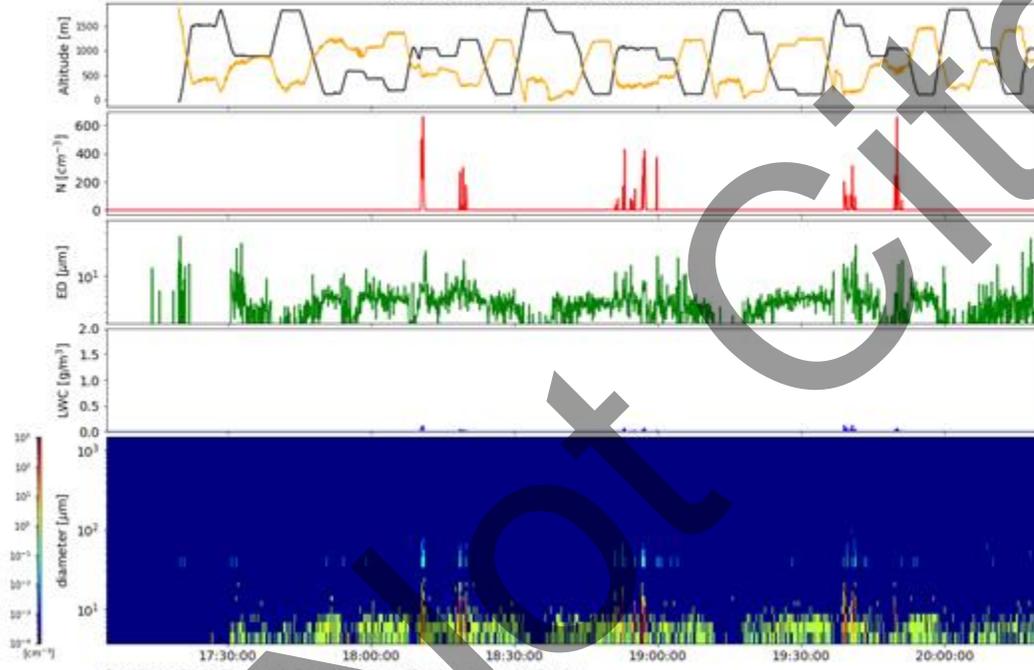


# Quicklook ACTIVATE Cloud Probes (FCDP & 2DS) Quicklook

preliminary data, only for quicklook use  
Simon Kirschler, Christiane Voigt, Richard Moore, Ewan Crosbie



Cloud Probes (FCDP & 2DS) Quicklook 12/03/2021 17:04:37-20:20:25



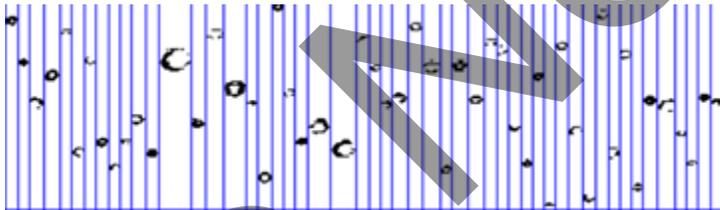
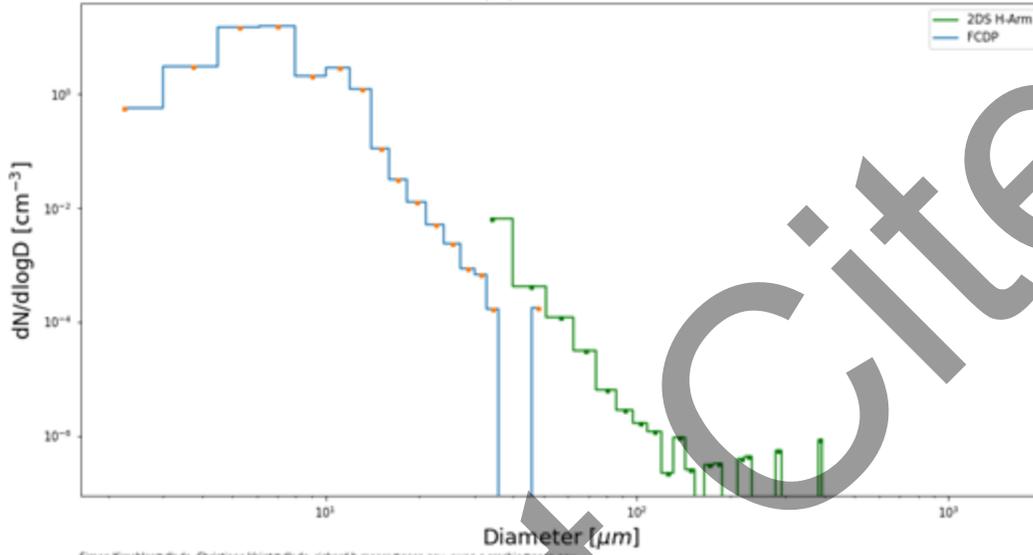
Simon.Kirschler@dlr.de, Christiane.Voigt@dlr.de, richard.moore@nasa.gov, ewan.crosbie@nasa.gov

# PSD ACTIVATE

preliminary data, only for quicklook use  
Simon Kirschler, Christiane Voigt, Richard Moore, Ewan Crosbie



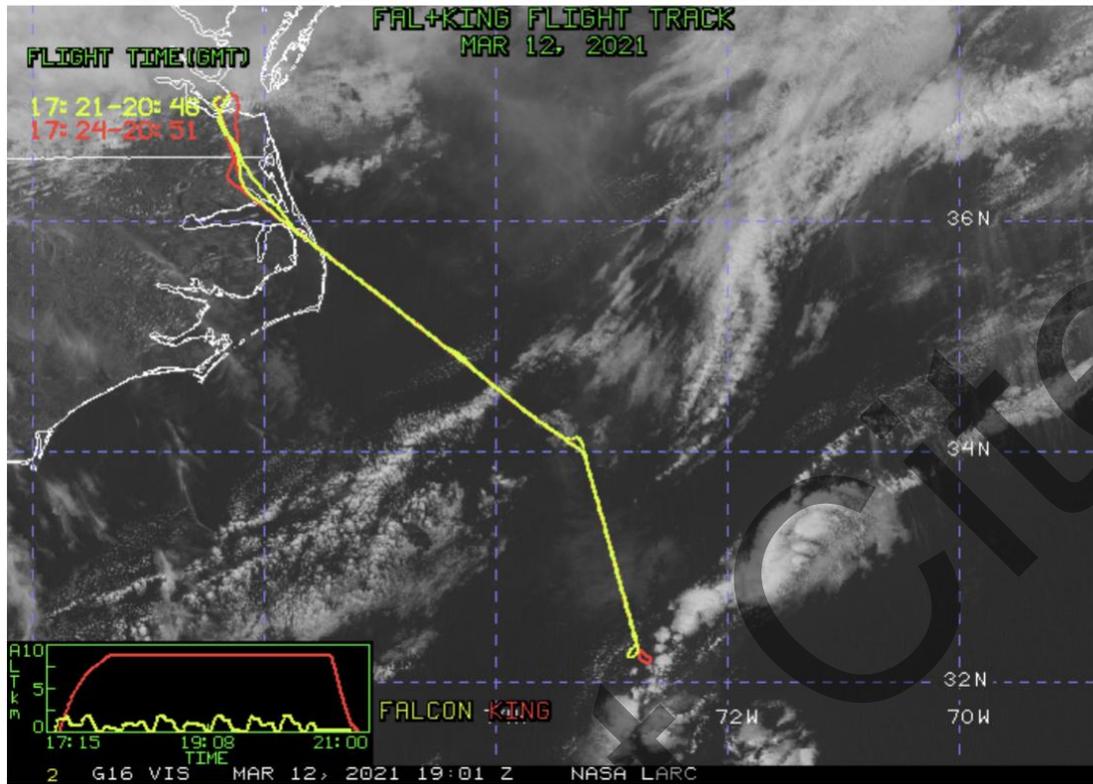
PSD 12/03/2021 17:04:37-20:20:25



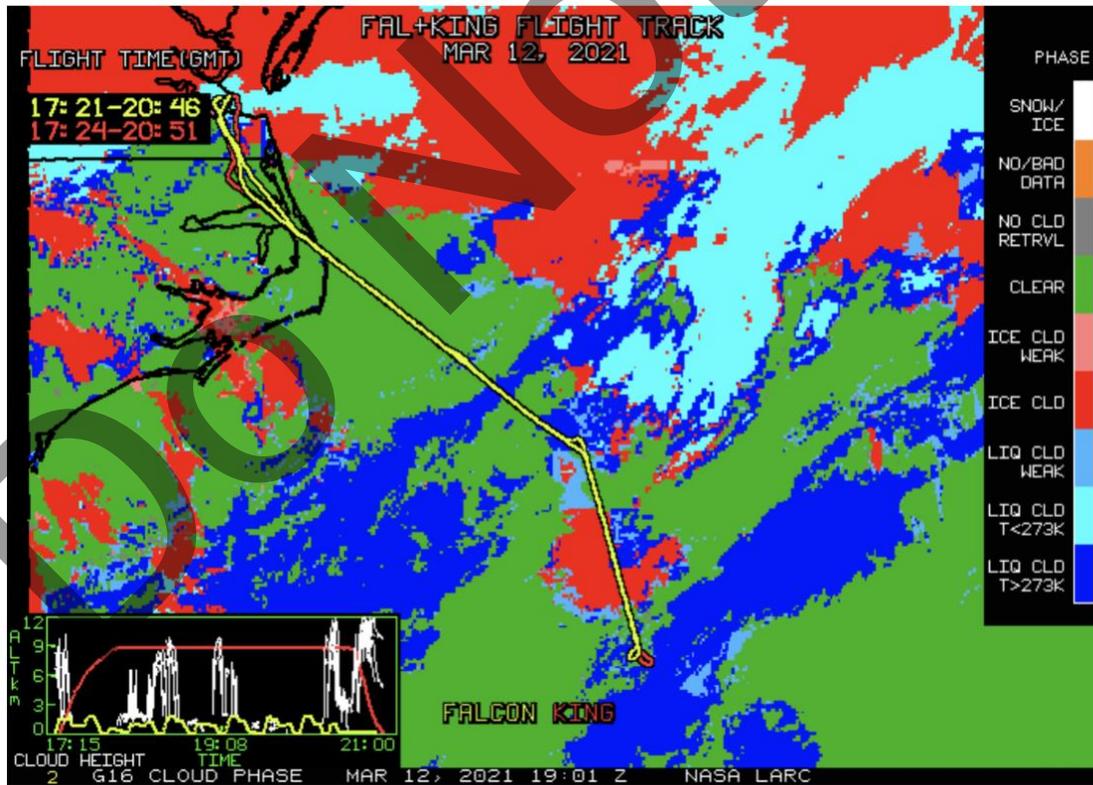
Only pure liquid clouds

NASA-LaRC Clouds Group GOES-16 Quicklook Images for Flight 54, 19:01 UTC Mar 12, 2021

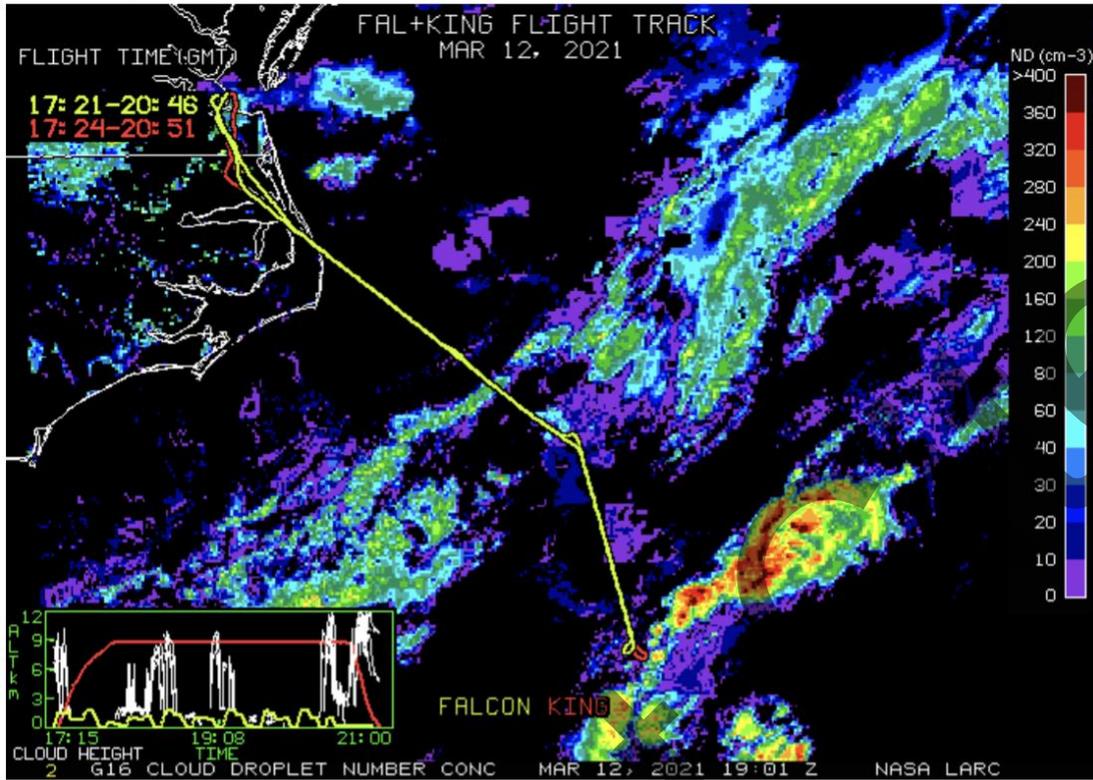
Visible Image



Cloud Phase



Cloud Droplet Number Concentration (cm-3)



Cloud-Top Height (Kft-ASL)

